

## **SCOS97 Commercial Jet Aircraft Emission Summaries**

### **Introduction**

This document describes the California Air Resources Board (ARB) three-dimensional, day-specific commercial jet aircraft emission summaries available on the Web. Two types of summaries are provided:

- Airport-specific CO, NO<sub>x</sub>, SO<sub>x</sub>, HC and PM emissions within 1,000 meters AGL (above ground level), and
- Emissions within 1,000 meters AGL, and above 1,000 meters AGL, for the entire SCOS97 domain.

Please note that PM emissions are all PM, not PM<sub>10</sub>, since engine emission factors were only available for whole PM.

### **Input Data and Methodology**

The inputs and methodology used to generate the three-dimensional commercial jet inventory are described in a separate document (Collins 2001), also available on the Web.

### **Airport-Specific Emissions Below 1,000 m AGL**

Emission summaries below 1,000 m AGL for CO, NO<sub>x</sub>, SO<sub>x</sub>, HC and PM were prepared for several 1997 days, for the airport locations shown in Table 1. Emissions are presented for the sum of all engine operating modes (taxi/idle, takeoff, ascent, cruise, and descent), and separately for the APUs (auxiliary power units) during taxi/idle. Units are English tons/day. APU PM emissions are shown as N/A (not applicable) because there are no PM APU emission factors available. In addition to the airport summaries, summaries were prepared for all airports combined, for those emissions not attributed to any airport, and total emissions.

**Table 1 – Airport Locations from North to South**

<b>Airport</b>	<b>Longitude (Deg)</b>	<b>Latitude (Deg)</b>
Santa Barbara	119.84	34.43
Burbank	118.36	34.20
Ontario	117.60	34.06
Los Angeles	118.41	33.94
Palm Springs	116.51	33.83
Long Beach	118.15	33.82
John Wayne	117.87	33.68
Carlsbad	117.28	33.13
San Diego	117.19	32.73
All Airports	<b>N/A</b>	
Beyond 50 km		
Total		

John Wayne is the Orange County airport. Carlsbad is primarily an air cargo airport, approximately half-way between John Wayne and San Diego.

“All Airports” is the sum of emissions within 50 km of each of the airports.

“Beyond 50 km.” is the sum of emissions beyond 50 km distance from any of the airports.

“Total” is the sum of “All Airports” and “Beyond 50 km.” It represents the total aircraft emissions, below 1000 m AGL, for the entire SCOS97 domain.

### **SCOS97 Domain Emission Summaries**

Emissions for the entire SCOS97 domain were summarized for all commercial jet operating modes (taxi/idle, takeoff, ascent, cruise, and descent) and for APUs, within 1,000 meters AGL (above ground level), and above this altitude.

### **Contact Person**

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### **References**

Collins, Arthur M. 2001. "SCOS97 3-D Commercial Aircraft Emissions Methodology." Planning and Technical Support Division, California Air Resources Board. August 2001. Available on the Internet at: [http://www.arb.ca.gov/eos/scos97/3D\\_Aircraft\\_Methodology.pdf](http://www.arb.ca.gov/eos/scos97/3D_Aircraft_Methodology.pdf).